

AMENDMENT TO THE CLAIMS

Claim 1 (original): A method of diagnosing squamous metaplasia of bladder cancer in an individual, comprising the steps of:

collecting biological samples from said individual; and

determining the expression of caveolin-1 or keratin 10 in said samples, wherein the expression of caveolin-1 or keratin 10 in said samples indicates the presence of squamous metaplasia of bladder cancer.

Claim 2 (original): The method of claim 1, wherein expression of caveolin-1 or keratin 10 is determined at protein level.

Claim 3 (original): The method of claim 1, wherein expression of caveolin-1 or keratin 10 is determined at nucleic acid level.

Claim 4 (original): A method of diagnosing bladder cancer in an individual, comprising the steps of:

collecting biological samples from said individual; and

determining in said samples the level of gene expression for a protein selected from the group consisting of zyxin, E-cadherin, moesin, cytokeratin 20, neuropilin 2, p21 and p33ING1, wherein said level of expression correlates with the stage and grade of bladder cancer in said individual.

Claim 5 (original): The method of claim 4, wherein said gene expression is determined at protein level.

Claim 6 (original): The method of claim 4, wherein said gene expression is determined at nucleic acid level.

Claim 7 (original): A method of discriminating between superficial and invasive bladder cancer in an individual, comprising the steps of:

collecting biological samples from said individual; and
determining in said samples the level of gene expression for a protein selected from the group consisting of zyxin, E-cadherin, moesin, p21, cytokeratin 20, neuropilin-2 and p33ING1, wherein said protein is differentially expressed in superficial and invasive bladder cancer.

Claim 8 (original): The method of claim 7, wherein said gene expression is determined at protein level.

Claim 9 (original): The method of claim 5, wherein said gene expression is determined at nucleic acid level.

Claim 10 (original): A method of predicting survival outcome of an individual having bladder cancer, comprising the steps of:

collecting biological samples from said individual; and
determining in said samples the level of gene expression for p33ING1 or moesin, wherein said level of expression correlates with survival outcome of said individual.

Claim 11 (original): The method of claim 7, wherein said gene expression is determined at protein or nucleic acid level.

Claim 12 (original): A method of discriminating between superficial and invasive bladder cancer in an individual, comprising the steps of:

collecting biological samples from said individual; and
determining in said samples the expression of a gene identified by an accession number selected from the group consisting of AA011414, AA021434, AA021464, AA028884, AA034115, AA035095, AA043806, AA074666, AA083385, AA101348, AA127058, AA132065, AA143509, AA147928, AA156863, AA165403, AA172210, AA190401, AA256462, AA279188, AA394148, AA402766, AA421518, AA424578, AA425861, AA430520, AA434068, AA446453, AA447696, AA449831, AA450227, AA450265, AA454566, AA454862, AA455150, AA455281, AA456136, AA457092, AA457162,

AA457725, AA458661, AA459663, AA464152, AA464192, AA465031, AA465378, AA465593, AA478268, AA485052, AA486313, AA486374, AA486761, AA487020, AA487223, AA487265, AA487899, AA489400, AA490047, AA490390, AA496359, AA496784, AA496948, AA504128, AA504617, AA598759, AA598815, AA620479, AA625981, AA629584, AA633757, AA669341, AA680322, AA682613, AA683085, AA705886, AA775415, AA862434, AA934762, AA935560, AI017703, H05769, H17158, H20652, H21040, H23366, H23880, H54093, H73731, H84444, H93463, H94897, H99502, N30811, N54338, N69283, N73536, N91962, R16165, R22439, R24543, R25377, R27552, R49144, R53889, R55763, R69307, R76314, R78514, T53404, T57815, T67053, T81091, T96829, W49619, W69906, W96107, AA010393, AA019591, AA024832, AA113339, AA115248, AA121704, AA134595, AA142875, AA157797, AA165400, AA284268, AA284292, AA404694, AA406603, AA421783, AA424834, AA429399, AA431184, AA435936, AA436158, AA436871, AA443193, AA443285, AA453607, AA453748, AA454579, AA454625, AA455119, AA457374, AA459950, AA460365, AA463958, AA482325, AA488526, AA488645, AA489246, AA489661, AA496780, AA504894, AA599093, AA609067, AA609134, AA621335, AA705060, AA708310, H09747, H09818, H10335, H17335, H23277, H29292, H41096, H53141, H58736, H65834, H70815, H93463, H95989, N21548, N38891, N56882, N58283, N66933, N94428, R08891, R09585, R22271, R28669, R36449, R43525, R44132, R51080, R56219, R56432, R60053, R60927, R64066, R92455, R94943, R98628, R99918, T50370, T55592, T61792, T68461, T71680, T86983, T90641, T96711, W31919, W56308, W99364, wherein said gene is differentially expressed at the mRNA level in superficial and invasive bladder cancer.

Claim 13 (original): A method for identifying the presence or absence of a squamous metaplasia of bladder cancer phenotype in a cell or cells, comprising determining the expression level of caveolin-1 or keratin 10 in said cell or cells, wherein a detectable expression level of caveolin-1 or keratin 10 in said cell or cells indicates the presence of squamous metaplasia of bladder cancer phenotype and an undetectable level of caveolin-1 or keratin 10 in said cell or cells indicates the absence of squamous metaplasia of bladder cancer phenotype.

Claim 14 (original): A method of identifying the presence or absence of a squamous metaplasia of bladder cancer in an individual, comprising the steps of:

- (a) collecting a biological sample from said individual; and
- (b) determining the expression level of caveolin-1 or keratin 10 in said sample,

wherein a detectable expression level of caveolin-1 or keratin 10 in said sample indicates the presence of said squamous metaplasia of bladder cancer and an undetectable level of caveolin-1 or keratin 10 in said sample indicates the absence of said squamous metaplasia of bladder cancer.

Claim 15 (currently amended): The method of claim 1 ~~or~~ 2, wherein the expression level is a protein expression level.

Claim 16 (currently amended): The method of claim 1 ~~or~~ 2, wherein the expression level is a nucleic acid expression level.

Claim 17 (original): A method of identifying the presence or absence of a bladder cancer in an individual, comprising the steps of:

collecting a biological sample from said individual; and

determining in said sample the level of expression of a protein selected from the group consisting of zyxin, E-cadherin, moesin, cytokeratin 20, neuropilin 2, p21 and p33ING1, wherein said level of expression indicates the presence or absence of a bladder cancer in said individual.

Claim 18 (original): The method of claim 17, further comprising correlating said expression level with the stage and grade of bladder cancer in said individual.

Claim 19 (currently amended): The method of claim ~~17~~ 18, wherein expression of said protein is determined at protein level.

Claim 20 (currently amended): The method of claim ~~17~~ 18, wherein expression of said protein is determined at nucleic acid level.

Claim 21 (original): A method of discriminating between a superficial and an invasive bladder cancer in an individual, comprising the steps of:

collecting a biological sample from said individual; and

determining in said sample the level of expression of a protein selected from the group consisting of zyxin, E-cadherin, moesin and p33ING1, wherein said protein is differentially expressed in superficial and invasive bladder cancer.

Claim 22 (original): The method of claim 21, wherein said level of expression is a level of expressed protein.

Claim 23 (original): The method of claim 21, wherein said level of expression is a level of nucleic acid expression.

Claim 24 (original): A method of predicting survival outcome of an individual having bladder cancer, comprising the steps of:

collecting biological samples from said individual; and

determining in said samples the level of expression of p33ING1, wherein said level of expression correlates with survival outcome of said individual.

Claim 25 (original): The method of claim 24, wherein expression of said protein is determined at protein or nucleic acid level.

Claims 26-31 (canceled).

Claim 32 (new): A kit for identifying the presence or absence of a squamous metaplasia of bladder cancer phenotype in a cell or cells, comprising a reagent or reagents capable of determining the expression level of caveolin-1 or keratin 10 in said cell or cells, wherein detectable expression levels of caveolin-1 or keratin 10 in said samples indicates the presence of squamous metaplasia of bladder cancer phenotype and undetectable levels of caveolin-1 or keratin 10 in said cell or cells indicates the absence of squamous metaplasia of bladder cancer phenotype.

Claim 33 (new): The kit of claim 32, wherein at least one reagent is an antibody or wherein at least one reagent is a nucleic acid.

Claim 34 (new): The kit of claim 32, further comprising instructions for correlating said level of expression with a clinical diagnosis.

Claim 35 (new): A kit for identifying the presence or absence of bladder cancer in an individual, the kit comprising a reagent or reagents capable of determining the level of expression of a protein selected from the group consisting of zyxin, E-cadherin, moesin, cytokeratin 20, neuropilin 2, p21 and p33ING1.

Claim 36 (new): The kit of claim 35, wherein at least one reagent is an antibody or wherein at least one reagent is a nucleic acid.

Claim 37 (new): The kit of claim 35, further comprising instructions for correlating said level of expression with a clinical diagnosis.

Claim 38 (new): A kit for discriminating between superficial and invasive bladder cancer in an individual, the kit comprising a reagent or reagents capable of determining the level of expression of a protein selected from the group consisting of zyxin, E-cadherin, moesin and p33ING1.

Claim 39 (new): The kit of claim 38, wherein at least one reagent is an antibody or wherein at least one reagent is a nucleic acid.

Claim 40 (new): The kit of claim 38, further comprising instructions for correlating said level of expression with a clinical diagnosis.

Claim 41 (original): A kit for predicting survival outcome of an individual having bladder cancer, the kit comprising a reagent or reagents capable of determining in said samples the level of expression of p33ING1.

Claim 42 (new): The kit of claim 41, wherein at least one reagent is an antibody or wherein at least one reagent is a nucleic acid.

Claim 43 (new): The kit of claim 41, further comprising instructions for correlating said level of expression with a clinical diagnosis.